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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,135	02/05/2002	David Wayne Schroeder	5490-000220	7517
27572	7590	09/20/2004		EXAMINER
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				RAMANA, ANURADHA
			ART UNIT	PAPER NUMBER
			3732	

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/068,135	SCHROEDER, DAVID WAYNE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anu Ramana	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 August 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3,5,8-13,17-22,24,25 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5,8-13,17-22,24,25 and 28-34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 2/5/2002 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 11, 2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 8-13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman et al. (US 5,879,404) in view of Homsy (US 4,778,474) and Shelley (JP402161943).

Bateman et al. disclose a composite acetabular component or "bearing insert" having a ceramic bearing liner or "insert member" 2 and an outer shell or "backing member" 3 wherein the outer shell is made of a thermoplastic material such as polymethylmethacrylate, polyethylene or ultra-high molecular weight polyethylene for use with an outer acetabular shell or "acetabulum member" and a femoral component having a ball-like or "ball-shaped" head during hip replacement surgery (Figs. 1-2 and 5, col. 1, lines 10-39, col. 2, lines 43-47 and lines 66-67, col. 3, lines 1-14, col. 4, lines 8-19 and col. 5, lines 18-47).

Bateman et al. disclose all elements of the claimed invention except for a texture and radially disposed macrogrooves on the outer surface of ceramic insert 2.

Homsy teaches providing a roughness 28'a on the outer surface of a cup 28a in order to attach an elastomeric layer 33 to the outer surface of the cup by mechanical interlocking (Figs. 3-4 and col. 4, lines 47-52).

Shelley teaches a composite acetabular component having an outer shell or cup and a plastic insert 9 wherein radial grooves 16 are provided on the inner surface of the cup to prevent rotation of insert 9 within the cup (Figs. 1-4).

Accordingly it would have been obvious to one of ordinary skill in the art at the time of the invention was made to construct the composite acetabular component of Bateman et al. with the outer surface of insert member 2 having a roughness, as taught by Homsy, in order to enhance adhesion between backing member 3 and insert member 2.

Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided radial grooves 16 on the ceramic bearing insert 2 of the acetabular component of the combination of Bateman et al. and Homsy, instead of the inner surface of the outer cup as taught by Shelley, to prevent rotation of bearing insert within the outer shell, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 7.

With regard to providing a roughness having an arithmetic mean roughness in a range of about 5 to about 10 microns or a ten-point mean roughness in a range of about 50 to about 75 microns, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 8, the Applicant has failed to establish the criticality of the macro-grooves having a longitudinal orientation with respect to the hemispherical surface of the insert. It is the Examiner's opinion that any orientation could be used and thus the device of the combination of Bateman et al., Homsy and Shelley would perform equally well as the claimed invention.

Claims 19-22, 24, 25 and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman et al. (US 5,879,404) in view of Homsy (US 4,778,474) and Shelley (JP402161943), further in view of Lin et al. (US 5,782,930).

Regarding claims 19 and 20, the combination of Bateman et al., Homsy and Shelley disclose all elements of the claimed invention except for a securing member to interconnect the acetabulum member and the composite acetabular component. See discussion for claims 1 and 11.

Regarding claim 21, Bateman et al. disclose a method of making a composite acetabular component having the steps of: providing a ceramic insert member 2; providing a thermoplastic material; softening the thermoplastic material (e.g. injection or compression molding (col. 4, lines 37-41); and contacting the outer surface of the ceramic insert member 2 with the softened thermoplastic material to form backing member 3 around insert 2 (col. 4, lines 27-33 and lines 37-48).

Lin et al. teach a locking ring for securing a composite bearing component 101 inside a shell component or “acetabulum member” 102 to allow for easy orientation and installation wherein the locking ring is situated in an arcuate groove in the acetabulum member and radially extends to engage a corresponding axially aligned arcuate groove formed in the bearing component (Fig. 1, col. 1, lines 9-23, col. 2, lines 3-14 and lines 51-58 and col. 6, lines 4-25).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a locking ring in the acetabulum replacement system of the combination of Bateman et al., Homsy and Shelley, as taught by Lin et al., for easy installation and orientation of the composite bearing insert inside the acetabulum member.

With regard to the method steps of claims 21-22, 24-25 and 28-30, the step of imparting a texture to the outer surface of ceramic insert member 2, contacting the textured outer surface of ceramic insert member 2 with the softened thermoplastic material, and securing the composite acetabular component to the acetabulum member with an interconnecting or “locking” member, it is noted that these steps are rendered obvious by the combination of Bateman et al., Homsy, Shelley and Lin et al. as discussed above.

#### *Response to Arguments*

Applicant’s arguments submitted under “REMARKS” in the response filed on August 11, 2004, have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anu Ramana whose telephone number is (703) 306-4035. The examiner can normally be reached Monday through Friday between 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached at (703) 308-2582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AR *Anu Ramana*  
September 13, 2004



EDUARDO C. ROBERT  
PRIMARY EXAMINER